

HOBBS OCD
AUG 21 2017
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Lea County, NM (NAD 27 NME)

Black Bear 36 State

#601H

H&P 466

Plan #1

PROJECT DETAILS: Lea County, NM (NAD 27 NME)

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level



Azimuths to Grid North
True North: -0.43°
Magnetic North: 6.49°
Magnetic Field
Strength: 47865.7nT
Dip Angle: 59.85°
Date: 6/20/2017
Model: IGRF2015

To convert a Magnetic Direction to a Grid Direction, Add 6.49°
To convert a Magnetic Direction to a True Direction, Add 6.92° East
To convert a True Direction to a Grid Direction, Subtract 0.43°

WELL DETAILS: #601H

Ground Level: 3328.0
KB = 25 @ 3353.0usft (H&P 466)
Northing 398668.00 Easting 751627.00 32° 5' 36.414 N Longitude 103° 31' 14.902 W

SECTION DETAILS

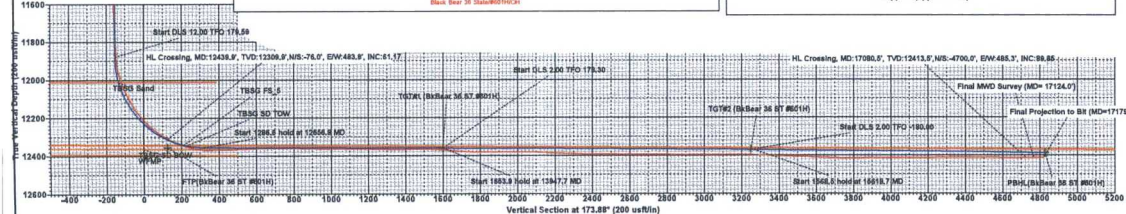
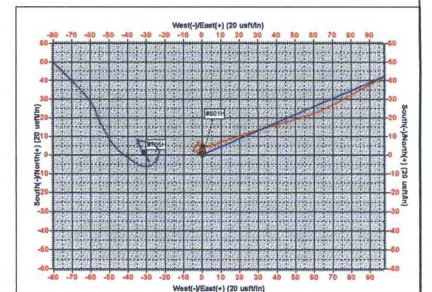
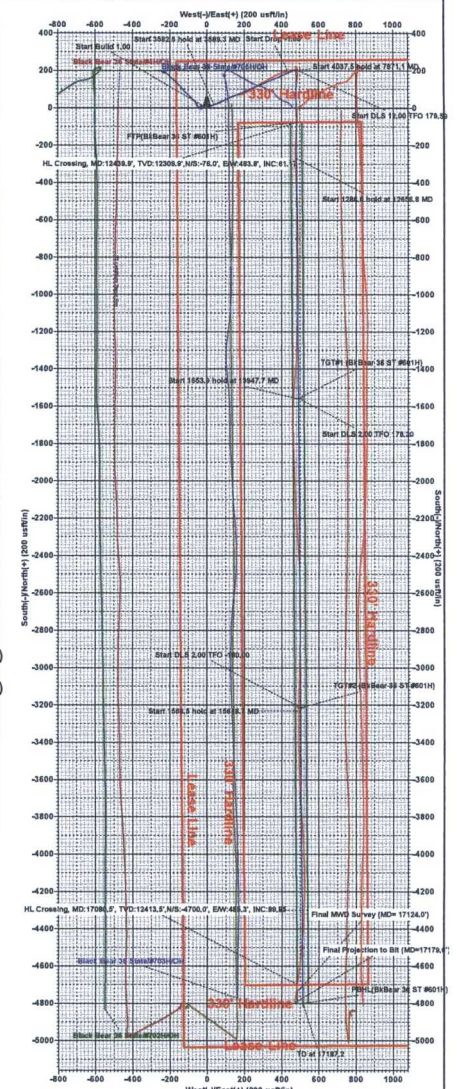
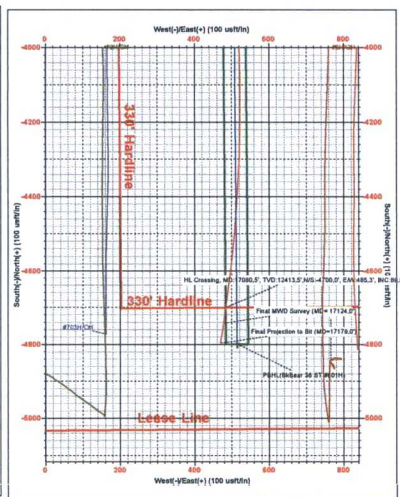
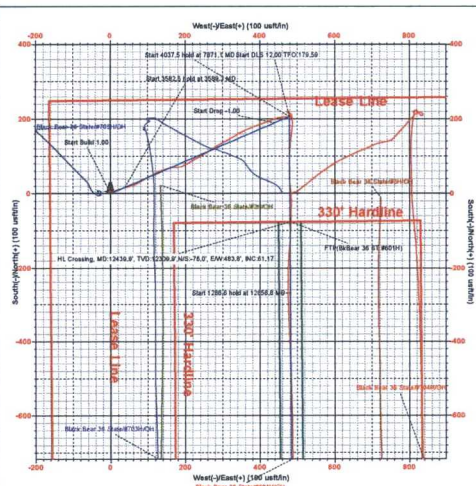
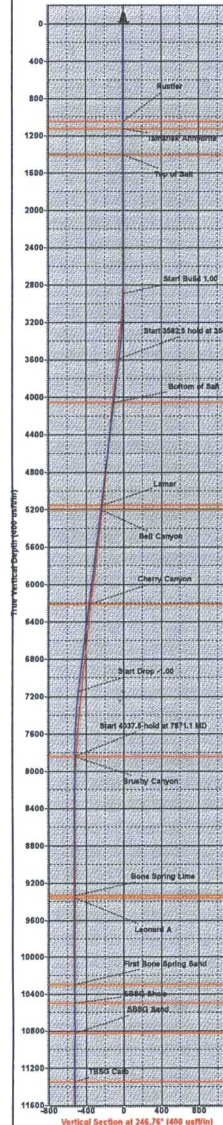
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	2890.0	0.00	0.00	2890.0	0.0	0.0	0.00	0.00	0.0	
3	3589.3	6.99	66.76	3587.6	16.8	39.2	1.00	66.76	-12.5	
4	7171.8	6.99	66.76	7143.4	188.9	439.9	0.00	0.00	-140.9	
5	7871.1	0.00	0.00	7841.0	205.8	479.1	1.00	180.00	-153.5	
6	11908.6	0.00	0.00	11878.5	205.8	479.1	0.00	0.00	-153.5	
7	12656.8	89.78	179.59	12356.0	-269.8	482.5	12.00	179.59	319.8	
8	13943.4	89.78	179.59	12361.0	-1556.4	491.8	0.00	0.00	1600.0	TGT#1 (BkBear 36 ST #601H)
9	13947.7	89.69	179.59	12361.0	-1560.7	491.8	2.00	178.30	1604.3	
10	15601.6	89.69	179.59	12370.0	-3214.6	503.7	0.00	0.00	3250.0	TGT#2 (BkBear 36 ST #601H)
11	15618.7	89.35	179.59	12370.1	-3231.7	503.8	2.00	-180.00	3267.0	
12	17187.2	89.35	179.59	12388.0	-4800.0	515.0	0.00	0.00	4827.5	PBHL(BkBear 36 ST #601H)

CASING DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
FTP(BkBear 36 ST #601H)	12356.0	-76.0	481.0	398592.00	752108.00
TGT#1 (BkBear 36 ST #601H)	12361.0	-1556.4	491.8	397111.60	752118.79
TGT#2 (BkBear 36 ST #601H)	12370.0	-3214.6	503.7	395463.40	752130.65
PBHL(BkBear 36 ST #601H)	12388.0	-4800.0	515.0	393888.00	752142.00



1:14 Scale Map (NAD 27 NME)
Map Date: 6/20/2017
Map #1
Scale: 1:14
Units: US

EOG Resources - Midland

Lea County, NM (NAD 27 NME)

Black Bear 36 State

#601H

OH

Design: OH

PVA Report

19 June, 2017

EOG Resources

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #601H
Project:	Lea County, NM (NAD 27 NME)	TVD Reference:	KB = 25 @ 3353.0usft (H&P 466)
Site:	Black Bear 36 State	MD Reference:	KB = 25 @ 3353.0usft (H&P 466)
Well:	#601H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14 Single User Db

Project	Lea County, NM (NAD 27 NME)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Black Bear 36 State		
Site Position:		Northing:	398,659.00 usft
From:	Map	Easting:	750,659.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 5' 36.397 N
		Longitude:	103° 31' 26.155 W
		Grid Convergence:	0.43 °

Well	#601H		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty		0.0 usft	Wellhead Elevation:
			Latitude:
			Longitude:
			Ground Level:

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2015	6/20/2017	6.92
			Dip Angle (°)
			59.95
			Field Strength (nT)
			47,865.71382032

Design	OH		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.0	0.0	0.0
			Direction (°)
			173.88

EOG Resources

PVA Report

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Site:	Black Bear 36 State	MD Reference:	KB = 25 @ 3353.0usft (H&P 466)
Well:	#601H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14 Single User Db

Survey Program		Date 6/19/2017			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
96.0	1,182.0	Wildfire MWD (OH)	MWD	MWD - Standard	
1,261.0	17,179.0	QES Surveys (OH)	MWD	MWD - Standard	

Survey											
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.0	0.0	
96.0	0.30	325.95	96.0	0.2	-0.1	0.31	0.31	0.00	-0.3	0.0	
101.0	0.40	318.95	101.0	0.2	-0.2	2.17	2.00	-140.00	-0.3	0.0	
216.0	0.40	33.95	216.0	0.9	-0.2	0.42	0.00	65.22	-0.6	0.6	
246.0	0.70	68.95	246.0	1.0	0.0	1.46	1.00	116.67	-0.4	0.9	
275.0	0.30	42.95	275.0	1.1	0.2	1.55	-1.38	-89.66	-1.0	0.6	
333.0	0.60	58.95	333.0	1.4	0.6	0.56	0.52	27.59	-1.2	0.9	
363.0	0.10	54.95	363.0	1.5	0.8	1.67	-1.67	-13.33	-1.5	0.8	
394.0	0.40	146.95	394.0	1.4	0.8	1.34	0.97	296.77	0.7	1.5	
457.0	0.40	349.95	457.0	1.5	0.9	1.24	0.00	-249.21	-1.3	-1.2	
488.0	0.50	332.95	488.0	1.7	0.8	0.53	0.32	-54.84	-1.1	-1.5	
520.0	0.70	351.95	520.0	2.0	0.8	0.87	0.62	59.37	-1.9	-1.0	
583.0	0.20	303.95	583.0	2.4	0.6	0.93	-0.79	-76.19	-0.9	-2.4	
613.0	0.80	350.95	613.0	2.7	0.5	2.27	2.00	156.67	-2.6	-1.0	
644.0	0.50	295.95	644.0	3.0	0.4	2.12	-0.97	-177.42	-1.0	-2.8	
675.0	0.50	302.95	675.0	3.1	0.1	0.20	0.00	22.58	-1.6	-2.7	
738.0	1.10	313.95	738.0	3.7	-0.5	0.98	0.95	17.46	-2.9	-2.3	
769.0	0.90	297.95	769.0	4.0	-0.9	1.10	-0.65	-51.61	-2.7	-3.1	
801.0	1.00	327.95	801.0	4.3	-1.3	1.57	0.31	93.75	-4.4	-1.2	
832.0	1.00	318.95	832.0	4.8	-1.6	0.51	0.00	-29.03	-4.7	-1.9	
863.0	0.40	333.95	863.0	5.1	-1.9	2.01	-1.94	48.39	-5.4	-0.5	

EOG Resources

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #601H
Project:	Lea County, NM (NAD 27 NME)	TVD Reference:	KB = 25 @ 3353.0usft (H&P 466)
Site:	Black Bear 36 State	MD Reference:	KB = 25 @ 3353.0usft (H&P 466)
Well:	#601H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14 Single User Db

Survey										
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
894.0	0.80	347.95	894.0	5.4	-2.0	1.36	1.29	45.16	-5.7	0.8
925.0	0.40	299.95	925.0	5.6	-2.1	1.97	-1.29	-154.84	-4.6	-3.8
955.0	0.60	320.95	955.0	5.8	-2.3	0.89	0.67	70.00	-6.0	-1.9
986.0	0.50	318.95	986.0	6.0	-2.5	0.33	-0.32	-6.45	-6.2	-2.1
1,017.0	0.60	350.95	1,017.0	6.3	-2.6	1.03	0.32	103.23	-6.6	1.6
1,048.0	0.60	348.95	1,048.0	6.6	-2.6	0.07	0.00	-6.45	-7.0	1.3
1,091.0	0.20	68.95	1,091.0	6.9	-2.6	1.39	-0.93	186.05	0.0	7.4
1,155.0	0.10	150.95	1,155.0	6.9	-2.5	0.33	-0.16	128.12	7.2	1.2
1,182.0	0.20	22.95	1,182.0	6.9	-2.5	1.01	0.37	-474.07	-5.4	5.0
1,261.0	0.20	112.80	1,260.9	7.0	-2.3	0.36	0.00	113.73	4.8	5.5
1,449.0	0.20	99.10	1,448.9	6.8	-1.7	0.03	0.00	-7.29	2.7	6.4
1,639.0	0.10	226.30	1,638.9	6.6	-1.4	0.14	-0.05	66.95	3.5	-5.8
1,829.0	0.40	212.40	1,828.9	5.9	-1.9	0.16	0.16	-7.32	4.0	-4.8
2,018.0	0.60	220.90	2,017.9	4.6	-2.9	0.11	0.11	4.50	1.6	-5.2
2,208.0	0.50	219.80	2,207.9	3.2	-4.1	0.05	-0.05	-0.58	-0.1	-5.2
2,398.0	0.30	193.10	2,397.9	2.1	-4.7	0.14	-0.11	-14.05	1.0	-5.1
2,588.0	0.50	94.50	2,587.9	1.6	-4.0	0.33	0.11	-51.89	4.1	1.3
2,778.0	1.30	62.50	2,777.9	2.5	-1.3	0.48	0.42	-16.84	0.0	2.8
2,968.0	2.50	70.90	2,967.8	4.9	4.5	0.65	0.63	4.42	-5.3	3.1
3,158.0	4.70	71.30	3,157.4	8.7	15.8	1.16	1.16	0.21	-11.5	2.7
3,349.0	6.20	73.90	3,347.5	14.1	33.1	0.80	0.79	1.36	-17.5	2.0
3,539.0	6.30	74.30	3,536.4	19.7	53.0	0.06	0.05	0.21	-20.0	-0.2
3,728.0	6.20	60.00	3,724.3	27.7	71.9	0.82	-0.05	-7.57	-17.0	-5.0
3,918.0	5.80	62.50	3,913.3	37.2	89.3	0.25	-0.21	1.32	-13.9	-2.1
4,108.0	6.20	62.30	4,102.2	46.4	106.9	0.21	0.21	-0.11	-10.7	-0.3
4,299.0	4.90	60.40	4,292.3	55.2	123.1	0.69	-0.68	-0.99	-6.0	1.5
4,489.0	6.10	70.90	4,481.4	62.6	139.7	0.82	0.63	5.53	-0.6	2.4

EOG Resources

PVA Report

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Site:	Black Bear 36 State	MD Reference:	KB = 25 @ 3353.0usft (H&P 466)
Well:	#601H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14 Single User Db

Survey											
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
4,679.0	5.40	75.00	4,670.5	68.2	157.9	0.43	-0.37	2.16	3.5	-0.2	
4,869.0	6.70	90.30	4,859.4	70.4	177.6	1.08	0.68	8.05	4.9	-7.9	
5,059.0	6.20	61.50	5,048.3	75.3	197.7	1.70	-0.26	-15.16	11.1	-7.9	
5,248.0	5.10	59.90	5,236.4	84.4	213.9	0.59	-0.58	-0.85	15.6	-5.1	
5,438.0	7.60	60.90	5,425.2	94.7	232.2	1.32	1.32	0.53	17.5	-2.9	
5,628.0	6.90	59.00	5,613.7	106.7	253.0	0.39	-0.37	-1.00	16.6	0.4	
5,818.0	6.20	54.80	5,802.4	118.5	271.1	0.45	-0.37	-2.21	17.5	5.6	
6,007.0	7.80	62.20	5,990.0	130.3	290.8	0.97	0.85	3.92	18.1	6.4	
6,197.0	6.60	60.90	6,178.5	141.7	311.8	0.64	-0.63	-0.68	17.1	8.9	
6,387.0	6.00	58.80	6,367.4	152.1	329.8	0.34	-0.32	-1.11	18.9	12.3	
6,577.0	5.70	59.90	6,556.4	162.0	346.5	0.17	-0.16	0.58	22.7	14.9	
6,767.0	6.50	67.30	6,745.3	170.9	364.5	0.59	0.42	3.89	27.5	12.9	
6,957.0	6.30	66.40	6,934.1	179.2	384.0	0.12	-0.11	-0.47	29.2	13.3	
7,147.0	5.90	71.60	7,123.0	186.5	402.8	0.36	-0.21	2.74	33.2	9.6	
7,337.0	5.20	72.30	7,312.1	192.2	420.3	0.37	-0.37	0.37	35.6	7.3	
7,527.0	4.80	65.80	7,501.4	198.0	435.8	0.36	-0.21	-3.42	32.6	10.6	
7,718.0	4.50	76.90	7,691.8	203.0	450.4	0.50	-0.16	5.81	26.7	4.2	
7,908.0	3.40	84.50	7,881.3	205.2	463.2	0.64	-0.58	4.00	15.9	1.0	
8,098.0	2.80	91.00	8,071.1	205.7	473.5	0.37	-0.32	3.42	5.6	-0.2	
8,288.0	2.40	102.10	8,260.9	204.8	482.0	0.34	-0.21	5.84	-3.0	-0.3	
8,478.0	1.00	134.60	8,450.8	202.8	487.1	0.87	-0.74	17.11	-7.8	3.5	
8,668.0	0.50	142.30	8,640.8	201.0	488.8	0.27	-0.26	4.05	-9.7	4.7	
8,858.0	0.40	340.20	8,830.8	200.9	489.0	0.47	-0.05	-85.32	7.9	-7.7	
9,048.0	0.90	340.20	9,020.8	203.0	488.3	0.26	0.26	0.00	5.8	-7.7	
9,238.0	0.90	335.10	9,210.7	205.7	487.2	0.04	0.00	-2.68	3.4	-7.3	
9,428.0	0.70	4.80	9,400.7	208.2	486.6	0.24	-0.11	15.63	-3.1	-7.3	
9,618.0	0.90	331.10	9,590.7	210.7	486.0	0.26	0.11	-17.74	-1.0	-8.4	

EOG Resources

PVA Report

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 27 NME)
Site: Black Bear 36 State
Well: #601H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #601H
TVD Reference: KB = 25 @ 3353.0usft (H&P 466)
MD Reference: KB = 25 @ 3353.0usft (H&P 466)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.14 Single User Db

Survey										
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
9,808.0	0.40	334.40	9,780.7	212.6	485.0	0.26	-0.26	1.74	-3.6	-8.3
9,997.0	0.70	301.90	9,969.7	213.8	483.7	0.22	0.16	-17.20	-0.3	-9.3
10,187.0	1.00	316.30	10,159.7	215.6	481.6	0.19	0.16	7.58	-5.4	-8.6
10,376.0	1.10	297.90	10,348.6	217.7	478.9	0.19	0.05	-9.74	-5.8	-10.4
10,566.0	0.90	285.60	10,538.6	218.9	475.8	0.15	-0.11	-6.47	-6.7	-11.8
10,755.0	0.50	241.60	10,727.6	218.9	473.7	0.34	-0.21	-23.28	1.5	-14.2
10,945.0	0.50	77.10	10,917.6	218.7	473.7	0.52	0.00	-86.58	2.3	13.8
11,135.0	0.90	17.10	11,107.6	220.3	475.0	0.41	0.21	-31.58	-12.7	8.2
11,325.0	1.20	107.80	11,297.5	221.1	477.3	0.79	0.16	47.74	6.4	14.1
11,515.0	2.50	173.20	11,487.5	216.4	479.7	1.20	0.68	34.42	10.5	1.9
11,706.0	2.50	156.70	11,678.3	208.5	481.9	0.38	0.00	-8.64	1.4	3.6
11,782.0	2.30	146.50	11,754.2	205.7	483.4	0.62	-0.26	-13.42	-2.4	3.5
11,920.0	4.00	155.00	11,892.0	199.0	486.9	1.27	1.23	6.16	-9.3	4.3
11,967.0	11.50	175.00	11,938.5	192.8	488.0	16.72	15.96	42.55	-9.8	8.1
12,015.0	17.10	185.90	11,985.0	181.0	487.7	12.90	11.67	22.71	-11.5	9.7
12,062.0	22.20	186.10	12,029.3	165.3	486.1	10.85	10.85	0.43	-14.4	8.3
12,110.0	28.40	185.00	12,072.7	144.9	484.1	12.95	12.92	-2.29	-17.4	6.1
12,157.0	29.30	185.60	12,113.8	122.3	482.0	2.01	1.91	1.28	-18.2	4.0
12,204.0	33.80	183.10	12,153.9	97.8	480.2	9.97	9.57	-5.32	-16.6	1.1
12,251.0	39.80	180.40	12,191.5	69.7	479.4	13.22	12.77	-5.74	-14.3	-0.6
12,299.0	45.70	175.20	12,226.7	37.2	480.7	14.32	12.29	-10.83	-12.0	-0.2
12,346.0	52.20	176.10	12,257.6	1.8	483.4	13.90	13.83	1.91	-10.1	2.4
12,394.0	55.70	180.10	12,285.8	-36.9	484.6	9.93	7.29	8.33	-7.3	3.8
12,441.0	61.30	182.40	12,310.4	-77.0	483.7	12.62	11.91	4.89	-3.7	2.7
12,489.0	68.10	182.90	12,330.9	-120.3	481.7	14.20	14.17	1.04	-0.4	0.3
12,536.0	72.50	184.70	12,346.7	-164.4	478.8	10.03	9.36	3.83	2.8	-3.1
12,584.0	77.30	181.70	12,359.2	-210.7	476.2	11.68	10.00	-6.25	7.1	-6.0

EOG Resources

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #601H
Project:	Lea County, NM (NAD 27 NME)	TVD Reference:	KB = 25 @ 3353.0usft (H&P 466)
Site:	Black Bear 36 State	MD Reference:	KB = 25 @ 3353.0usft (H&P 466)
Well:	#601H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14 Single User Db

Survey										
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
12,631.0	82.60	179.20	12,367.4	-256.9	475.8	12.43	11.28	-5.32	11.7	-6.6
12,679.0	89.90	177.50	12,370.6	-304.8	477.2	15.61	15.21	-3.54	14.5	-5.6
12,693.0	90.90	177.50	12,370.5	-318.8	477.8	7.14	7.14	0.00	14.3	-5.0
12,783.0	93.00	177.50	12,367.4	-408.6	481.8	2.33	2.33	0.00	10.9	-1.8
12,878.0	92.10	178.00	12,363.2	-503.5	485.5	1.08	-0.95	0.53	6.3	1.3
12,973.0	90.60	179.20	12,360.9	-598.4	487.8	2.02	-1.58	1.26	3.7	2.9
13,069.0	89.50	179.80	12,360.9	-694.4	488.6	1.31	-1.15	0.62	3.2	3.1
13,164.0	89.10	179.60	12,362.0	-789.4	489.1	0.47	-0.42	-0.21	4.0	2.9
13,259.0	88.60	179.40	12,363.9	-884.4	490.0	0.57	-0.53	-0.21	5.6	3.0
13,354.0	90.70	179.90	12,364.5	-979.3	490.5	2.27	2.21	0.53	5.8	2.9
13,449.0	90.00	181.10	12,363.9	-1,074.3	489.7	1.46	-0.74	1.26	4.8	1.4
13,544.0	89.10	182.60	12,364.7	-1,169.3	486.6	1.84	-0.95	1.58	5.2	-2.4
13,639.0	88.50	180.40	12,366.7	-1,264.2	484.2	2.40	-0.63	-2.32	6.8	-5.5
13,734.0	91.10	184.00	12,367.0	-1,359.1	480.5	4.67	2.74	3.79	6.8	-9.8
13,829.0	90.20	185.90	12,365.9	-1,453.8	472.3	2.21	-0.95	2.00	5.4	-18.7
13,924.0	85.80	182.90	12,369.2	-1,548.4	465.0	5.60	-4.63	-3.16	8.2	-26.7
14,019.0	84.90	180.60	12,376.9	-1,643.0	462.1	2.59	-0.95	-2.42	15.4	-30.3
14,114.0	89.70	178.20	12,381.4	-1,737.9	463.1	5.65	5.05	-2.53	19.4	-29.9
14,209.0	89.40	178.00	12,382.2	-1,832.8	466.3	0.38	-0.32	-0.21	19.7	-27.5
14,304.0	91.40	178.70	12,381.5	-1,927.8	469.0	2.23	2.11	0.74	18.5	-25.4
14,400.0	88.50	177.80	12,381.6	-2,023.7	472.0	3.16	-3.02	-0.94	18.1	-23.2
14,495.0	87.00	177.30	12,385.3	-2,118.6	476.0	1.66	-1.58	-0.53	21.3	-19.8
14,589.0	88.00	176.60	12,389.4	-2,212.3	481.0	1.30	1.06	-0.74	24.9	-15.4
14,684.0	88.20	175.70	12,392.6	-2,307.1	487.4	0.97	0.21	-0.95	27.5	-9.7
14,779.0	90.80	176.60	12,393.4	-2,401.8	493.8	2.90	2.74	0.95	27.8	-4.1
14,874.0	88.20	178.20	12,394.2	-2,496.7	498.1	3.21	-2.74	1.68	28.1	-0.4
14,969.0	90.10	179.00	12,395.6	-2,591.7	500.4	2.17	2.00	0.84	29.0	1.2

EOG Resources

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #601H
Project:	Lea County, NM (NAD 27 NME)	TVD Reference:	KB = 25 @ 3353.0usft (H&P 466)
Site:	Black Bear 36 State	MD Reference:	KB = 25 @ 3353.0usft (H&P 466)
Well:	#601H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14 Single User Db

Survey										
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
15,064.0	90.20	179.80	12,395.4	-2,686.7	501.4	0.85	0.11	0.84	28.2	1.5
15,159.0	89.30	180.40	12,395.8	-2,781.7	501.2	1.14	-0.95	0.63	28.1	0.7
15,254.0	89.60	181.70	12,396.7	-2,876.7	499.5	1.40	0.32	1.37	28.5	-1.8
15,349.0	90.40	180.80	12,396.7	-2,971.6	497.4	1.27	0.84	-0.95	28.0	-4.5
15,445.0	90.20	181.10	12,396.2	-3,067.6	495.8	0.38	-0.21	0.31	27.0	-6.8
15,540.0	89.70	181.30	12,396.3	-3,162.6	493.8	0.57	-0.53	0.21	26.6	-9.5
15,635.0	87.00	180.40	12,399.0	-3,257.5	492.4	3.00	-2.84	-0.95	28.6	-11.6
15,730.0	88.00	179.20	12,403.2	-3,352.4	492.7	1.64	1.05	-1.26	31.6	-11.9
15,825.0	88.60	178.50	12,406.0	-3,447.4	494.7	0.97	0.63	-0.74	33.4	-10.7
15,920.0	86.80	178.50	12,409.8	-3,542.3	497.1	1.89	-1.89	0.00	36.1	-8.9
16,015.0	88.10	177.60	12,414.0	-3,637.1	500.4	1.66	1.37	-0.95	39.3	-6.3
16,110.0	88.50	175.90	12,416.8	-3,731.9	505.8	1.84	0.42	-1.79	41.0	-1.6
16,205.0	92.90	175.90	12,415.7	-3,826.6	512.5	4.63	4.63	0.00	38.8	4.5
16,300.0	89.70	177.10	12,413.5	-3,921.4	518.3	3.60	-3.37	1.26	35.5	9.6
16,395.0	89.80	178.30	12,413.9	-4,016.3	522.2	1.27	0.11	1.26	34.9	12.8
16,490.0	90.10	180.10	12,414.0	-4,111.3	523.5	1.92	0.32	1.89	33.9	13.4
16,585.0	90.90	180.40	12,413.2	-4,206.3	523.1	0.90	0.84	0.32	32.0	12.3
16,680.0	90.20	181.90	12,412.3	-4,301.3	521.2	1.74	-0.74	1.58	30.0	9.7
16,775.0	90.80	184.00	12,411.5	-4,396.2	516.3	2.30	0.63	2.21	28.1	4.1
16,870.0	88.70	184.50	12,411.9	-4,490.9	509.2	2.27	-2.21	0.53	27.4	-3.6
16,965.0	90.00	186.60	12,412.9	-4,585.4	500.0	2.60	1.37	2.21	27.4	-13.4
17,060.0	89.50	187.80	12,413.4	-4,679.7	488.1	1.37	-0.53	1.26	26.8	-25.9
17,124.0	90.60	188.70	12,413.3	-4,743.0	479.0	2.22	1.72	1.41	26.2	-35.5
17,179.0	90.60	188.70	12,412.7	-4,797.4	470.6	0.00	0.00	0.00	25.0	-44.2

EOG Resources

PVA Report

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 27 NME)
Site: Black Bear 36 State
Well: #601H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #601H
TVD Reference: KB = 25 @ 3353.0usft (H&P 466)
MD Reference: KB = 25 @ 3353.0usft (H&P 466)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.14 Single User Db

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
12,439.9	12,309.9	-76.0	483.8	HL Crossing, MD:12439.9', TVD:12309.9', N/S:-76.0', E/W:483.8', INC:61.17
17,080.5	12,413.5	-4,700.0	485.3	HL Crossing, MD:17080.5', TVD:12413.5', N/S:-4700.0', E/W:485.3', INC:89.85
17,124.0	12,413.3	-4,743.0	479.0	Final MWD Survey (MD= 17124.0')
17,179.0	12,412.7	-4,797.4	470.6	Final Projection to Bit (MD=17179.0')

Checked By: _____ Approved By: _____ Date: _____